

L 63328-65 ENT(d)/T Pg. 1/Ph. 1 RJP(n)

ACCESSION NR: AP5017613

UR/2582/65/000/014/0221/0244

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TITLE: An algorithm for Armenian-Russian machine translation. I (General description) 16

SOURCE: Problemy kibernetiki, no. 14, 1965, 221-244

TOPIC TAGS: translation algorithm, machine translation, syntactic analysis, syntactic synthesis, idiom identification

ABSTRACT: The algorithm for Armenian-Russian machine translation whose general description is presented in this article is based on the principle of independent analysis and synthesis. This means that during the first stage of the operation the machine carries out the grammatical and meaning analysis of the Armenian text while during the second it synthesizes the corresponding Russian text on the basis of the information gathered during the analysis. The authors outline the structure of the dictionary and the method of morphological synthesis of the Russian sen-

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tence and describe the labels used by the algorithm during the syntactic analysis and label synthesis. They also describe procedures for arriving at the correct meaning of multiple meaning words and for the identification of idioms. The article concludes with four examples of translation of mathematical texts. "The authors thank V. V. Ivanov, O. S. Kulagina, I. A. Mel'chuk, T. N. Moloshnaya and V. A. Uspenskiy for their help, fruitful ideas and valuable advice." Orig. art. has: 13 formulas and 2 tables.

ASSOCIATION: None

SUBMITTED: 23Jan64

ENGL: 00

SUB CODE: DP

NO REF SOV: 011

OTHER: 000

Card

2/2

L 09325-65 BXT/REC-2/EXT(d)/T/TWP(L)

Pg-1/PK-1/Pq-1 TJP(c) GG/BB

ACCESSION NR: AP5017514

UR/2582/65/000/014/0245/0266

AUTHOR: Abelyan, N. S. (Yerevan); Bazmadzhyan, R. A. (Yerevan); Galnrielyan,
E. P. (Yerevan); Helli-Adanyan, Zh. R. (Yerevan); Karaustayan, T. V. (Yerevan);
Ter-Mikaelyan, T. N. (Yerevan)

TITLE: An algorithm for Armenian-Russian machine translation. II (Realization of
the program)

SOURCE: Problemy kibernetiki, no. 14, 1965, 245-266

TOPIC TAGS: translation algorithm, machine translation, sentence coding

ABSTRACT: This is the second part of a paper describing an algorithm for
Armenian-Russian machine translation developed at the Vychislitel'nyy Tsentr
(Computer Center) AN Arm. SSR and YerGU. It describes the realization of the pro-
gram of the algorithm on an automatic digital computer having a 2048-cell opera-
tive and 4096-cell outer memory. The basic principles of all the concepts uti-
lized are due to O. S. Kulagina (Problemy kibernetiki, no. 2, 1959, 289-302).
An outline of the algorithm's structure and the method of sentence coding is
followed by a description of the scheme of the algorithm and of all the auxiliary
information. A brief summary of the master and interpretation programs is also

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given. "The authors sincerely thank M. I. Belitskiy, O. S. Kulagina, and I. A. Mel'chuk. They also thank I. D. Sarlavskiy who was very helpful during the writing of the first two sections of this article." Orig. art. has: 12 formulas, 9 figures, and 1 table.

ASSOCIATION: None

SUBMITTED: 12Jul63

ENCL: 00

SUB CODE: DP

NO REF SOV: 004

OTHER: 000

Card

2/2

KARASYUK, Ye.

Shifting to a seven-hour working day in the merchant marine. Sots.
trud. 4 no.10:130-131 0 '59 (MIRA 13:3)

1. Starshiy inzhener Chernomorskogo tekhnicheskogo flota.
(Merchant marine) (Hours of labor)

KARASHEV, A.V.

Sediment transportation in reservoirs and lakes caused by wind
currents. Trudy GGI no. 86:53-66 '60. (MIRA 14:4)

(Sedimentation and deposition)

TEMNIKOVA, T.I.; KARAVAN, V.S.

Chemical transformations of α -halo ketones. Part 10: Reaction of
 α -halodeoxybenzoins and α -haloaryldeoxybenzoins with sodium
methylate in methanol. Zhur. ob. khim. 34 no.10:3157-3164 0 '64.
(MIRA 17:11)

1. Leningradskiy gosudarstvennyy universitet.

TEMNIKOVA, T.I.; KARAVAN, V.S.

Kinetics of the reaction of substituted β -halodeoxybenzofins
with sodium methylate in methyl alcohol. Zhur.org.khim. 1
no.3:609-610 Mr '65. (MIRA 18:4)

1. Leningradskiy gosudarstvennyy universitet.

TEMNIKOVA, T.I.; KARAVAN, V.S.; SEMENOVA, S.N.; ATAVIN, A.S.; MIRSKOVA,
A.N.; CHIPANINA, N.N.; PRELOVSKAYA, R.A.; AKIMOVA, G.S.;
CHISTOKLETOV, V.N.; PETROV, A.A.; MINGALEVA, K.S.; GOLODOVA,
K.G.

Letters to the editors. Zhur. org. khim. 1 no.11:2076-
2078 N '65. (MIRA 18:12)

1. Leningradskiy gosudarstvennyy universitet (for Temnikova,
Karavan, Semenova). 2. Irkutskiy institut organicheskoy khimii
Sibirskogo otdeleniya AN SSSR (for Atavin, Mirskova, Chipanina,
Prelovskaya). 3. Leningradskiy tekhnologicheskoy institut
imeni Lensovet (for Akimova, Chistokletov, Petrov).

KURTOVIC, Dervis; KARAVANIC, Josip, inz.; BARCAL, Laslo, inz.;
BEHLILOVIC, Fehim, inz.; RADOSEVIC, Nikola

Discussion on submitted reports and communications. Geod
list 17 no. 4/6: 149-156 Ap-Je '63.

KARAVANIC, Josip, inz. (Zagreb)

Something on the maintaining of state cadastral measuring. Geod list
16 no.1/3:91-102 '62.

KARAVANOV, A.G. (Kalinin, Pervomayskaya naberezhnaya, d. 74, kv. 5)

Bronchogenic mediastinal cysts. Grud. khir. 1 no. 3:98-102
'59. (MIRA 15:3)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. A.G. Karavanov) Kalininskogo meditsinskogo instituta (dir. - dotsent A.N. Kushnev) na baze Oblastnoy klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR A.A. Sokolov).
(MEDIASTINUM---TUMORS)
(CYSTS)

KARAVANOV, A.G. (Kalinin, Pervomayskaya ul., 74, kv. 5)

Surgical treatment of adhesive pericarditis. Grud. khir.
2 no. 1:60-63 Ja-F '60. (MIRA 15:3)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof.
A.G. Karavanov) Kalininskogo meditsinskogo instituta (dir.
- dotsent A.N. Kushnev) na baze Kalininskoy oblastnoy
klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach
ISFSR A.A. Sokolov).

(PERICARDITIS)

KARAVANOV, A.G.

Abscesses of the heart. Kardiologiya 2 no.2:86-87 Mr-Apr '62.
(MIRA 15:4)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. A.G.Karavanov)
Kalininskogo meditsinskogo instituta (dir. - dotsent A.N.Kushnev)
na baze Oblastnoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach
RSFSR A.A.Sokolov);

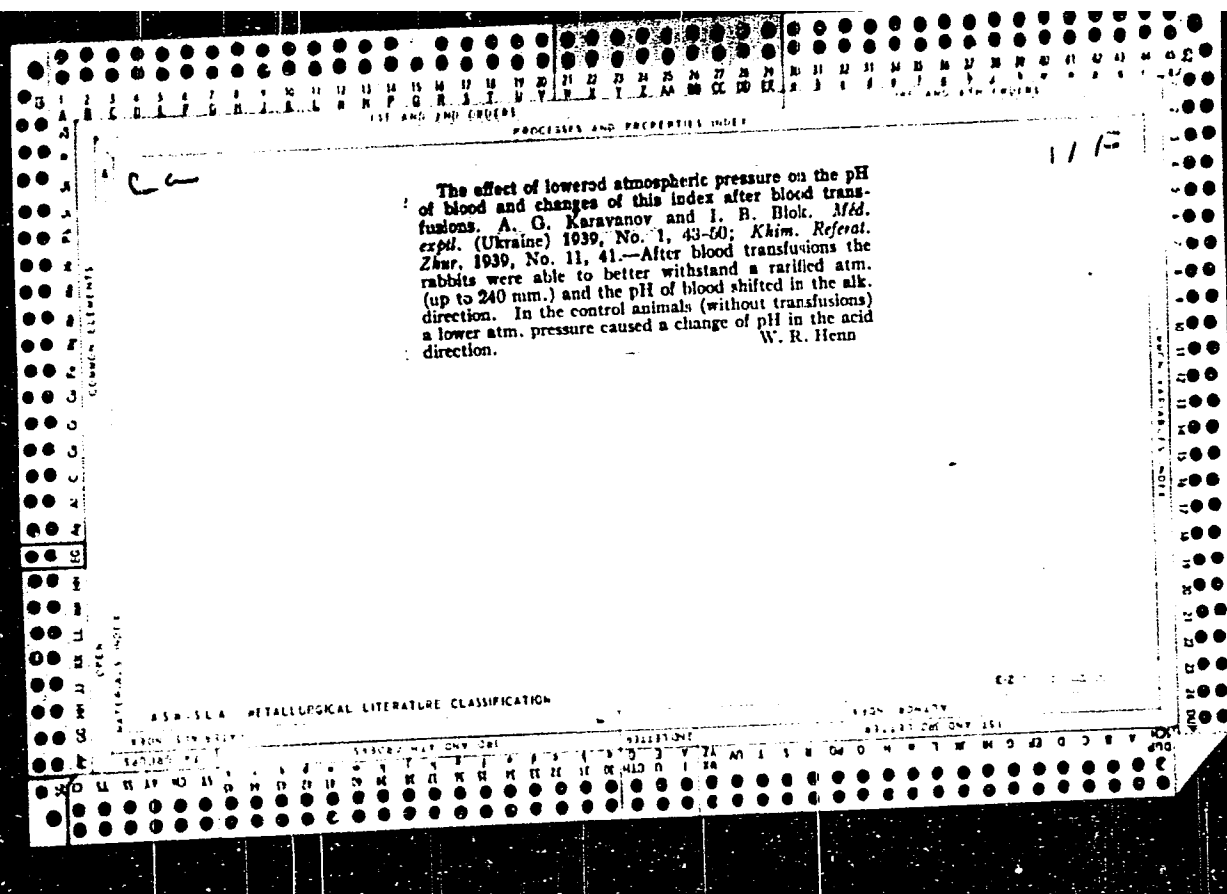
(HEART--ABSCESS)

ca

Blood transfusion after strychnine poisoning. A. G. Karavanov and A. E. Perel'shteyn. *Med. exp.* (Ukr.) No. 1, 55-60 (1937).—Lethal doses of strychnine (0.0005 g./kg. body weight) were injected subcutaneously into dogs. Bleeding always shortened the lives of the poisoned animals. Blood transfusion (with or without bleeding) did not prevent death of the poisoned dogs. S. A. Corson

11 G

COMMON ELEMENTS
COPPER
METALLURGICAL LITERATURE CLASSIFICATION
STANDARD NO.
STANDARD NO.
STANDARD NO.



11 F

Phagocytic activity of the leucocytes of preserved placental and retroplacental blood. A. G. Karavanov and N. C. Bakshiev. *MAI. exp.* (Ukraine) 1039, No. 2, 36-40.—Phagocytic activity of the blood (preserved with citrate) was somewhat decreased during the first day after collection (cause unknown) but increased again on the second day, began to decline once more on the third day, and disappeared altogether 5-6 days after collection. The monocytes retained their phagocytic activity for longer periods than the other cells. Retroplacental blood lost its phagocytic activity earlier than placental blood. S. A. Carson

ASB S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

KARAVANOV, A. G.

Karavanov, A. G. - "Drip blood transfusion," In the symposium: V. N. Shanov, Kiev, 1949, p. 197-99

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

KARAVANOV, A. G.

Karavanov, A. G. - "On supplementary pancreas," In the symposium: V. N. Shanov, Kiev, 1949, p. 285-88

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

KARAVANOV, A.G., prof. (Kalinin (oblastnoy) Pervomayskaya nab. d. 74, kv. 5).

Ectopia cordis and attempts to correct this abnormality, Vest.
khir. 81 no.11:111-113 N '58. (MIRA 12:3)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. A.G.
Karavanov) Kalininskogo meditsinskogo instituta i Kalininskoy
oblastnoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR
A.A.Sokolov).

(HEART--ABNORMALITIES AND DEFORMITIES)

KARAVANOV, A.G., prof.; REVVIS, V.A., kand.med.nauk; SHLEYFER, M.Ya.

Treatment of acute radiation sickness by experimental transplantation of bone marrow and the spleen. Vrach.delo no.1:45-51 '59.

(MIRA 12:4)

1. Klinika fakul'tetskoy khirurgii (zav. - prof. A.G. Karavanov)
Kalininskogo meditsinskogo instituta i oblastnaya klinicheskaya bol'nitsa.

(RADIATION SICKNESS)

(MARROW--TRANSPLANTATION)

KARAVANOV, A.G., prof.; VYSOTSKIY, N.N., prof.; ZHURAVSKIY, L.S.

Ligation of the internal mammary arteries in stencardia. Vrach. delo
no.10:70-74 0 '61. (MIRA 14:12)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. A.G.Karavanov) i
kafedra fakul'tetskoy terapii (zav. - prof. N.N.Vysotskiy) Kalinin-
skogo meditsinskogo instituta i oblastnaya bol'nitsa.
(ANGINA PECTORIS) (ARTERIES--LIGATURE)
(BREAST--BLOOD SUPPLY)

KARAVANOV, A.G., prof.; REVIS, V.A., kand.med.nauk

Use of a commercial television apparatus (PTU-3) for televising operations. Khirurgiia 37 no.1:128-130 Ja '61. (MIRA 14:2)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. A.G. Karavanov) Kalininskogo meditsinskogo instituta na baze Oblastnoy klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR A.A. Sokolov).
(TELEVISION IN MEDICAL EDUCATION)

KARAVANOV, A.G.; POPOV, L.N.; VOLCHEK, V.M.

Diagnosis and ~~exg~~ision of calculi in the pancreas. Kaz. med. zhur.
no.6:58-59 N-D '61. (MIRA 15:2)

1. Kafedra fakultetskoy khirurgii (zav. - prof. A.G.Karavanov)
Kalininskogo meditsinskogo instituta i Kalininskaya oblastnaya
bol'nitsa (glavnyy vrach - A.A.Sokolov).
(PANCREAS SURGERY) (CALCULI)

KARAVANOV, A. G.

Gastrogenic cysts of the posterior mediastinum. Grud. khir. 4
no.1:116-118 Ja-F '62. (MIRA 15:2)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. A. G. Karavanov)
Kalininskogo meditsinskogo instituta (dir. - dotsent A. N. Kushnev)
na baze Kalininskoy oblastnoy bol'nitsy (glavnyy vrach - zaslu-
zhennyy vrach RSFSR A. A. Sokolov)

(MEDIASTINUM--TUMORS)

KARAVANOV, A.G.; VOLCHEK, V.M.

Further observations on the use of the UKL-60 apparatus. Trudy
NIIEKHAI no.5:36-38 '61. (MIRA 15:8)

1. Iz kafedry fakul'tetskoy khirurgii Kalininskogo meditsinskogo
instituta. (LUNGS--SURGERY) (SUTURES)

KARAVANOV, A.G., prof.; VOLCHEK, V.M.; ZAGORODNYAYA, V.G.

Celomic cysts of the pericardium. Khirurgiia no.9:44-48 '62.
(MIRA 15:10)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. A.G.
Karavanov) Kalininskogo meditsinskogo instituta na baze Oblastnoy
klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach
RSFSR A.A.Sokolov).
(CYSTS) (PERICARDIUM-TUMORS)

KARAVANOV, A.G., prof. (Kalinin); FEYGEL', I.I. (Kalinin);
CHERNYAVSKIY, I.A. (Kalinin)

Functional state of the thyroid gland in the early stages
of pregnancy and immediately after an abortion. Probl.
endok. i gorm. 9 no.3:102-106 My-Je '63. (MIRA 17:1)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. I.I.
Feygel') i kafedry fakul'tetskoy khirurgii (zav. - prof.
A.G. Karavanov) Kalininskogo meditsinskogo instituta na baze
Kalininskoy oblastnoy bol'nitsy (glavnyy vrach - zasluzhennyy
vrach RSFSR A.A. Sokolov).

KARAVANOV, A.G., prof.; VOLCHEK, V.M.

Immediate and remote results of the Petruskii method of
esophagoplasty in cardiospasm. Khirurgiya 39 no.6-18-20
Je '63. (MIRA 17:5)

1. Iz khirurgicheskogo otdeleniya Kalininskoy oblastnoy bol'nitsy
(glavnyy vrach - zasluzhennyy vrach RSFSR A.A. Sokolov).

KARAVANOV, A.G., prof.; VOLCHEK, V.M.

Pulmonary hamartomas. Khirurgiia 39 no.8:42-43 Ag '63.
(MIRA 17:6)

1. Iz chirurgicheskogo otdeleniya Kalininskoy oblastnoy
bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR A.A. Sokolov).

KARAVANOV, A.G.; LAVRIK, S.S.; UMANSKIY, M.A.

Clinical effectiveness of fibrinogen in acute hemorrhages. Genat. i
perel. Krovi 1:7-12 '65. (MIRA 18:10)

1. Kiyevskiy institut perelivaniya krovi.

KARAVANOV, A.G., prof.; UMANSKIY, M.A., kand. med. nauk; KREMEN', M.G.

First experience in the use of a Soviet-made fibrinogen in
surgery with artificial circulation. Klin. khir. no.2:18-22 '65.
(MIRA 18:10)

1. Kiyevskiy institut perelivaniya krovi i Ukrainskiy institut
tuberkuleza i grudnoy khirurgii.

KARAVANOV, A.Y.; KASARDA, V.V.

Refractometric modifications in blood plasma during sleep therapy; preliminary report. Medych.shur.24 no.1:24-27 '54.

1. Vinnits'kiy medichniy institut, klinika zagal'noi khirurgii.

(BLOOD,

refractometric changes in sleep ther.)

(SLEEP, effects,

on blood refractometric changes)

KARAVANOV, G. G.

Karavanov, G. G. and Olintsov, K. Ye. - "The effect of arteriovenous aneurysm on the cardiovascular system," In the symposium: V. N. Shamov, Kiev, 1949, p. 67-76

SO: U-4555, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

KARAVANOV, G. G.

Karavanov, G. G. - "Treatment of obliterating endarteritis by internal arterial administration," In the symposium: V. N. Shamov, Kiev, 1949, p. 107-16

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

KARAVANOV, G.G.

Collateral blood circulation in operations of traumatic
aneurysm. Sovet. med. 17 no.10:35-36 Oct. 1953.

(CML 25:5)

1. Professor. 2. Of the Clinic of Faculty Surgery, L'vov
Medical Institute (Director == Prof. L.N. Kuzmenko).

KARAVANOV, G.G., professor (L'vov)

Surgical removal of a needle from the heart. Khirurgiia no.9:
67 S '54. (MLRA 7:12)

(HEART, foreign bodies,
needle, extraction)

(FOREIGN BODIES,
heart, surg. extraction of needle)

KARAVANOV, G.G., professor.

Traumatic arterial aneurysm a. comitans n. ischiadici. Vest.
khir. 74 no.1:70 Ja-F '54. (MLRA 7:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zaveduyushchiy -
professor G.G.Karavanov) L'vovskogo gosudarstvennogo meditsin-
skogo instituta. (Aneurysms)

KARAVANOV, G.G., professor

Methods of surgical treatment in elephantiasis of lower extremities.
Sov.med. 19 no.4:73-75 Ap '55. (MLRA 8:6)

1. Iz kliniki fakul'tetskoy khirurgii L'vovskogo meditsinskogo in-
stitutu (dir.-prof. L.N.Kuzmenko).

(ELEPHANTIASIS,

legs, surg., method)

(LEG, dis.,

elephantiasis, surg., method)

KARAVANOV, G.G., professor

Method for the surgical treatment of arteriovenous fistula. Sov.med.
19 no.12:70-71 D '55. (MLA 10:9)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. G.G.Karavancv)
L'vovskogo meditsinskogo instituta (dir. - prof. L.N.Kuzmenko)
(FISTULA) (ARTERIES--SURGERY) (VEINS--SURGERY)

KARAVANOV, G.G., professor; SPEKTOR, F.A., kandidat meditsinskikh nauk

Surgical treatment of acute cholecystitis, Sov.med. 20 no.10:48-55
0 '56. (MLRA 10:1)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. G.G.Karavanov)
L'vovskogo meditsinskogo instituta (dir. - prof. L.N.Kuzmenko)
(CHOLECYSTITIS, surg.)

KARAVANOV, G.G., professor

Chronic duodenostases. Sov.med. 20 no.7:51-56 J1 '56. (MLRA 9:10)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. G.G.Karavanov)
L'vovskogo meditsinskogo instituta (dir. prof. L.N.Kuzmenko)
(DUODENUM, blood supply
stasis, differ. diag.)

KARAYANOV, G.G., professor (L'vov, ul. Saksaganskogo, d.9, kv.5)

Surgical treatment of stenosis of the cardiac orifice caused by chronic spasm. Nov.khir.arkh. no.4:36-39 J1-Ag '57. (MIRA 10:11)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. G.G.Karavanov)
L'vovskogo meditsinskogo instituta.
(ESOPHAGUS--SURGERY)

KARAVANOV, G.G.
KARAVANOV, G.G., prof. (L'vov)

~~Novocaine~~ block of the anterior mediastinum in surgical operations
on the thyroid gland. Vrach.delo no.12:1301-1303 D '57. (MIRA 11:2)

1. Klinika fakul'tetskoy khirurgii (zav. - prof. G.G.Karavanov)
L'vovskogo meditsinskogo instituta.
(THYROID GLAND--SURGERY)
(LOCAL ANESTHESIA) (NOVOCAINE)

KARAVANOV, G.G., prof.

Wounds of the heart. Khirurgiia 34 no.3:114-116 Mr '58. (MIRA 12:1)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. G.G. Karavanov)
L'vovskogo meditsinskogo instituta (dir. - prof. L.N. Kuzmenko).
(HEART, wds. & inj.
surg. management (Rus))

KARAVANOV, G.G., prof., SPEKTOR, F.A., kand.med.nauk

Technic of cholecystectomy and choledochotomy in acute cholecystitis.
Sov.med. 22 no.7:44-49 J1 '58 (MIRA 11:10)

1. Iz kliniki fakul'tetskoy khirurgii (zav. kafedroy - prof.
G.G. Karavanov) L'vovskogo gosudarstvennogo meditsinskogo instituta.
(CHOLECYSTECTOMY, in various dis
acute cholecystitis, technic (Rus))
(BILE DUCT, COMMON, surg.
choledochotomy in acute cholecystitis, technic (Rus))

KARAVANOV, G.G., prof. (L'vov, ul. Saksaganskogo, d.9, kv.5); SPENKOR, F.A.,
dotsent

Surgery in acute cholecystitis. Nov.khir.arh. no.3:3-13
My-Je '59. (MIRA 12:10)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof.G.G.Karavanov)
lechebnogo fakul'teta L'vovskogo meditsinskogo instituta.
(GALL BLADDER--DISEASES)

KARAVANOV, G.G.,prof.; KROPIL'NITSKIY, Z.N.

Report on thyroid surgery based on data from a conference at
the Lvov Medical Institute. Nov.khir.arkh. no.4:139-142
Jl-Ag '59. (MIRA 12:11)
(THYROID GLAND--SURGERY)

KARAVANOV, G.G., prof. (L'vov, ul. Saksaganskogo, d.9, kv.5); VALIGURA, Ya.S.,
kand.med.nauk

Late results of surgery in constrictive pericarditis. Nov.khir.arkh.
no.6:8-12 N-D '59. (MIRA 13:4)

1. Kafedra fakul'tetskoy khirurgii (zaveduyushchiy - prof. G.G.
Karavanov) lechebnogo fakul'teta L'vovskogo meditsinskogo insti-
tuta.

(PERICARDITIS)

(HEART--SURGERY)

KARAVANOV, G.G., prof. (L'vov, Saksaganskaya ul., d. 9, kv. 5)

Extraperitoneal fixation of the rectum in prolapse. Vest.khir.
82 no.2:115-118 F '59. (MIRA 12:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. G.G. Karavanov) L'vovskogo meditsinskogo instituta (dir. - prof. L.N. Kuzmenko).

(RECTUM, dis.

prolapse, surg., extraperitoneal fixation (Rus))

KARAVANOV, G.G., prof.; RETVINSKIY, A.N.

Use of a vagosympathetic block in the treatment of acute pancreatitis.
Sov.med. 23 no.10:103-106 O '59. (MIRA 13:2)

1. Iz kliniki fakul'tetskoy khirurgii (zaveduyushchiy - prof. G.G. Karavanov) L'vovskogo meditsinskogo instituta (direktor - prof. L.N. Kuzmenko).

(PANCREATITIS therapy)
(ANESTHESIA, CONDUCTION)

KARAVANOV, G.G., prof.; FIL'TS, O.V. (L'vov)

Pathological syndromes following resection of the stomach. Klin.med.
37 no.11:32-37 N '59. (MIRA 13:3)

1. Iz kliniki fakul'tetskoy khirurgii lechebnogo fakul'teta (zavedu-
yushchiy - prof. G.G. Karavanov) L'vovskogo meditsinskogo instituta
(direktor - prof. L.N. Kuzmenko).
(GASTRECTOMY complications)

KARAVANOV, G.G., prof. (L'vov, ul.Saksaganskogo, d.9,kv.5); SP-KTOR, F.A.,
kand.med.nauk

Repeated operations on the biliary tract. Nov. khir. arkh. no.1:
27-32 Ja-F '60. (MIRA 15:2)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. G.G.Karavanov),
lechebnogo fakul'teta L'vovskogo meditsinskogo instituta.
(BILIARY TRACT--SURGERY)

AMINEV, A.M., prof.; BEREZOV, Ye.L., prof.; BISENKOV, N.P., kand. med. nauk; BRAYTSEV, V.R., prof.; DEYNEKA, I.Ya., prof.; DYSKIN, Ye.A., kand. med. nauk KAZANSKIY, V.I., prof.; KARAVANOV, G.G., prof.; LEVIN, M.M., prof.; MAKSIMENKOV, A.N., prof.; MAYAT, V.S., prof.; NAPALOV, P.N., prof.; ROZANOV, B.S., prof.; RUSANOV, A.A., prof.; RUSANOV, G.A., kand. med. nauk; FILATOV, A.N., prof.; CHUKHRIYENKO, D.P., prof.; SHILOVTSEV, S.P., prof.; PETROVSKIY, B.V., prof., otv. red.; MEL'NIKOV, A.V., prof., red. toma; SUVOROVA, T.A., dots., red.; MIROTVORTSEVA, K.S., red.; RULEVA, M.S., tekhn. red.

[Multivolume manual on surgery] Mnogotomnoe rukovodstvo po khirurgii. Moskva, Medgiz. Vol.7. [Surgery of the abdominal wall and organs of the abdominal cavity, the stomach and intestines] Khirurgiya briushnoi stenki, organov briushnoi polosti-zheludka i kishechnika. 1960. 746 p. (MIRA 15:3)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Braytsev, Petrovskiy, Mel'nikov). 2. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Maksimenkov, Filatov).
(ABDOMEN—SURGERY)

KARAVANOV, G.G.; PAVLOVSKIY, M.P.

New variation of portacaval anastomosis in the treatment of portal hypertension. Eksper. khir. 5 no. 2:50 Mr-Apr '60. (MIRA 14:1)
(PORTACAVAL ANASTOMOSIS) (HYPERTENSION)

KARAVANOV, G.G., prof.; SYCHEV, G.G.

Venous thrombosis and the postphlebotic syndrome of the lower
extremities. Nauch.trudy L'vov.obl.terap.ob-va no.1:34-40 '61.
(MIRA 16:5)

1. Klinika fakul'tetskoy khirurgii lechebnogo fakul'teta L'vov-
skogo meditsinskogo instituta (zav. kafedroy - prof. G.G. Karavanov).
(THROMBOSIS) (PHLEBITIS)
(EXTREMITIES, LOWER--DISEASES)

KARAVANOV, G.G. [Karavanov, H.H.], doktor med.nauk, prof.

Search and discovery. Nauka i zhyttia 11 no.1:10-12 Ja '61.

(MIRA 14:3)

1. Zaveduyushchiy kafedroy fakul'tetskoy khirurgii L'vovskogo
medinstituta.

(LVOV—SURGERY—STUDY AND TEACHING)

KARAVANOV, G. G., prof.; MAZUR, I. V.

Intra-arterial infusion of a special combined solution in the
compound treatment of endarteritis. Khirurgiia no.2:35-40 '62.
(MIRA 15:2)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. G. G.
Karavanov) lechebnogo fakul'teta L'vovskogo meditsinskogo
instituta.

(ARTERIES—DISEASES)

KARAVANOV, G. G., prof.; KHARKHUTA, A. F., kand. med. nauk

Discussion of the article by Professor G. S. Toprover and S. A. Nesterov, "A new method for treating varicose veins of the lower extremities". Nov. khir. arkh. no.2:77-79 '62.

(MIRA 15:2)

(VARIX)

KARAVANOV, G.G., prof. (L'vov, ul. Saksaganskogo, d.9, kv.5);
FIL'TS, O.V., kand.med.nauk

Dumping syndrome; a survey of the Soviet and foreign literature.
Klin.khir. no.11:6-15 N '62. (MIRA 16:2)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. G.G. Karavanov)
lechebnogo fakul'teta L'vovskogo meditsinskogo instituta i 2-ye
khirurgicheskoye otdeleniye L'vovskoy oblastnoy klinicheskoy
bol'nitsy.

(DUMPING SYNDROME)

KARAVANOV, G.G., prof. (L'vov, ul. Saksaganskogo, d.9, kv.5)

Services of V.N. Shamov, Active Member of the Academy of Medical
Sciences of the U.S.S.R., in the development of Soviet surgery.
Klin.khir. no.12:3-8 D '62. (MIRA 16:2)
(SHAMOV, VLADIMIR NIKOLAEVICH, 1882-)

AUTHORS: Ivin, S. Z., Karavanov, K. V.

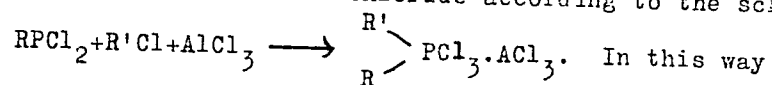
SOV/79-28-11-11/55

TITLE: On the Reaction of Sulfur and Inorganic Sulfides With the Complex Compounds of Dialkyl Trichloro Phosphines and of Aluminum Chloride (O vzaimodeystvii sery i neorganicheskikh sul'fidov s kompleksnymi soyedineniyami dialkiltrikhlorfosfinov i khloristogo alyuminiya)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11, pp 2958 - 2960 (USSR)

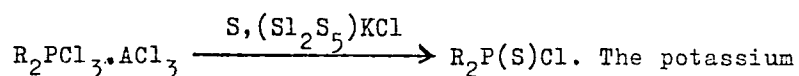
ABSTRACT: The initial complex compounds of the dialkyl tri-chloro phosphines with $AlCl_3$ remained unknown until recently. According to reference 1 it was mentioned that alkyl dichloro phosphines in the presence of $AlCl_3$ form solid compounds with alkyl chloride, the complexes themselves were, however, not characterized. The authors obtained the complex compounds also by the reaction of alkyl dichloro phosphine with alkyl chloride and aluminum chloride according to the scheme

Card 1/3



On the Reaction of Sulfur and Inorganic Sulfides With SOV/79-28-11-11/55
the Complex Compounds of Dialkyl Trichloro Phosphines and of Aluminum
Chloride

complexes of dimethyl, methyl-ethyl, and diethyl tri-
chloro phosphine with AlCl_3 were synthesized. They are
white crystalline compounds that easily enter
reaction with others. On their heating with sulfur or
arsenic, antimony, phosphorus, or aluminum sulfides and
other compounds in the presence of freshly annealed
potassium chloride the acid chloride of the dialkyl
thiophosphinic acid is obtained:



chloride in this case binds the aluminum chloride
which fact considerably increases the yield of
perchloric anhydride of the acid. The physical constants of
the acid chlorides of dimethyl, methyl-ethyl, and
diethyl thiophosphinic acids synthesized by the
authors agree with those described in publications (Ref 2).
There are 2 references, 1 Soviet reference.

Card 2/3

AUTHORS: Komkov, I. P., Ivin, S. Z., SOV/79-28-11-12/55
Karavanov, K. V.

TITLE: On the Reaction of Sulfur and of Inorganic Sulfides With
Complex Compounds of the Alkyl Tetrachloro Phosphines
and of Aluminum Chloride (o tsaimodeystvii sery i neorganiches-
kikh sul'fidov s kompleksnymi soyedineniyami alkiltetra-
khlorfosfinov i khloristogo alyuminiya)

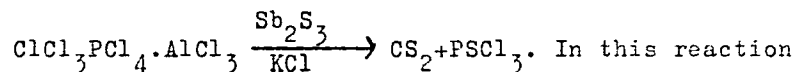
PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11,
pp 2960 - 2962 (USSR)

ABSTRACT: The authors investigated the reaction of the complex
compounds of the alkyl tetrachloro phosphines and of
aluminum chloride with sulfur, sulfides of metals and
non-metals. On a heating of the mixture of the said
complex with sulfur in the presence of freshly annealed
potassium chloride the acid dichlorides of the alkyl
thiophosphinic acid in a yield of 80% is obtained
according to the scheme:

Card 1/3 $RP\text{Cl}_4 \cdot \text{AlCl}_3 \xrightarrow{\text{KCl} + \text{S}} \text{RP}(\text{S})\text{Cl}_2 + \text{KCl} \cdot \text{AlCl}_3 + \text{sulfur chlorides.}$

On the Reaction of Sulfur and of Inorganic Sulfides SOV/79-28-11-12/55
With Complex Compounds of the Alkyl Tetrachloro Phosphines and of
Aluminum Chloride

Potassium chloride is used as binding agent of aluminum chloride. Otherwise the yield is decreased to 25-30%. On a heating of the complex compounds with aluminum, potassium, arsenic, antimony, phosphorus sulfide and others in the presence of KCl, the acid dichlorides of the alkyl thiophosphinic acid (yield 70%) are obtained. On a heating of the complex of AlCl_3 and trichloro methyl tetrachloro phosphine with sulfur the initial components phosphorus trichloride and carbon tetrachloride are separated. If this complex compound is heated with arsenic and antimony sulfide the carbon disulfide and phosphorus thiochlorine oxide are formed:



Card 2/3

first the thermal decomposition of the complex compound in ClCl_4 and PCl_3 takes place; these two react in

On the Reaction of Sulfur and of Inorganic Sulfides SOV/79-28-11-12/55
With Complex Compounds of the Alkyl Tetrachloro Phosphines and of
Aluminum Chloride

the presence of $AlCl_3$ with the arsenic and antimony
sulfide under the formation of CS_2 and $PSCl_3$. This
assumption was proved by special experiments. There
are 2 references.

SUBMITTED: August 29, 1957

Card 3/3

AUTHORS: Komkov, I. P., Karavanov, K. V.,
Ivin, S. Z.

SOV/79-28-11-13/55

TITLE: On New Methods of Synthesizing Alkyl Dichloro Phosphines
and Dialkyl Chloro Phosphines (O novykh metodakh polu-
cheniya alkildikhlorfosfinov i dialkikhlorfosfinov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11,
pp 2963 - 2965 (USSR)

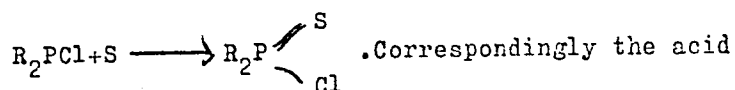
ABSTRACT: The authors devised new convenient methods of
synthesizing alkyl dichloro phosphine (I) and dialkyl
chloro phosphine (II). They consist in the reduction
of the complex compound of alkyl tetrachloro phosphines
or dialkyl trichloro phosphines with $AlCl_3$ by means
of metallic aluminum, red phosphorus and metallic
sodium in the presence of freshly annealed KCl (Scheme).
As found already earlier KCl considerably increases
the yields. Metallic aluminum in the form of aluminum
dust proved to be the best reducing agent. Raw
phosphorus in the reaction process yields PCl_3 which
hampers the formation of phosphines. The reaction

Card 1/3

On New Methods of Synthesizing Alkyl Dichloro
Phosphines and Dialkyl Chloro Phosphines

SOV/79-28-11-13/55

of metallic sodium takes place very turbulently which fact also decreases the yields. The above mentioned initial complex compounds are accessible and are correspondingly easily obtained from alkyl chloride, AlCl_3 , and PCl_3 , or alkyl dichloro phosphine (Ref³8). To ³ determine the properties and the structure of the dimethyl, methyl-ethyl, diethyl chloro phosphines resulting from the complex compounds sulfur was affiliated to them:



chlorides of dimethyl, methyl-ethyl, and diethyl thiophosphinic acid were separated. Their constants agree with those mentioned in publications (Ref 7). The affiliation of sulfur to the dialkyl chloro phosphines is much easier than it is to the alkyl dichloro phosphines. There are 8 references, 1 Soviet reference.

Card 2/3

KOMKOV, I.P.; IVIN, S.Z.; KARAVANOV, K.V.; SMIRNOV, L.Ye.

Synthesis of alkyl(aryl)tetrafluorophosphines and dialkyltrifluoro-
phosphines and their interaction with inorganic sulfides. Zhur. ob.
khim. 32 no.1:301-307 Ja '62. (MIRA 15:2)
(Phosphine) (Sulfides)

IVIN, S.Z.; KARAVANOV, K.V.; LYSENKO, V.V.

Complex compounds of alkyl- and polyalkylchlorophosphines
with aluminum chloride. Part 3: Production of complex
compounds of trialkyldichlorophosphines with aluminum
chloride and their reduction. Zhur. ob. khim. 34 no. 3:
852-854, Mr '64. (MIRA 17:6)

KARAVANOV, K.V.; IVIN, S.Z.

Complex compounds of alkyl and polyalkylphosphorophosphines with aluminum chloride. Part 4: Interaction of complex compounds of alkyltetrachloro- and dialkyltri-chlorophosphines and aluminum chloride with ethanethiol and potassium thiocyanate. Zhur. ob. khim. 35 no.1:78-79 Ju '66. (RUS) (1966)

KARAVANOV, K.V.; IVIN, S.Z.; LYSENKO, V.V.

Complex compounds of alkyltetrachlorophosphines with aluminum chloride. Part 5: Reaction of the complex compounds of alkyltetrachlorophosphines and aluminum chloride with alkylene oxides and alkylene sulfides. Zhur. ob. khim. 35 no.4:737-738 Ap '65.
(MIRA 18:5)

GRUDEN, V.G.; IVIN, S.M.; KARAVANOV, K.V.

Complex compounds formed by alkyl- and polyalkylchlorophosphines
with aluminum chloride. Part 7: Reduction of complex compounds
by metals and metal hydrides. Zhur. ob. khim. 35 no.6:1027-
1029 Je '65. (MIRA 18:6)

IVIN, S.Z.; KARAVANOV, K.V.; LYSENKO, V.V.; LEVIN, V.M.

Reaction of alkylchlorophosphine oxides with carboxamides.
Zhur. ob. khim. 35 no.10:1879 O '65. (MIRA 18:10)

L 7899-66 EWT(m)/EPF(c)/EWP(j)/EWP(t)/EWP(b) IJP(c) JD/RM
ACC NR: AP5024971 SOURCE CODE: UR/0286/65/000/016/0033/0033

AUTHORS: Gruzdev, V. G.; Karavanov, K. V.; Ivin, S. Z.

ORG: none

TITLE: Method for obtaining alkyldichlorophosphonates. Class 12, No. 173764
/announced by Organization of State Committee for Chemical Industry SSSR
(Organizatsiya gosudarstvennogo komiteta khimicheskoy promyshlennosti SSSR)

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 33

TOPIC TAGS: alkyldichlorophosphonate, ²¹potassium iodide, aluminum chloride,
chlorinated organic compound, organic phosphorus compound

ABSTRACT: This Author Certificate presents a method for obtaining alkyldichlorophosphonates by treating complexes of alkyltetrachlorophosphonates and aluminum chloride with a reducing agent. To simplify the method, potassium iodide is used as a reducing agent at 100C.

SUB CODE: 07/ SUBM DATE: 15Jul64

nw
Card 1/1

UDC: 547.419.1.07

L 21799-66 EWT(m)/EWP(j) RM

ACC NR: AP6012644

SOURCE CODE: UR/0079/65/035/001/0078/0079

AUTHOR: Karavanov, K. V.; Ivin, S. Z.

ORG: none

TITLE: Study of complex compounds of alkyl- and polyalkylchlorophosphines with aluminum chloride. IV. Reaction of complex compounds of alkyl tetrachloro- and dialkyltrichlorophosphanes and aluminum chloride with ethylmercaptan and potassium thiocyanide

SOURCE: Zhurnal obshchey khimii, v. 35, no. 1, 1965, 78-79

TOPIC TAGS: complex molecule, chemical reaction, organic phosphorous compound, mercaptan, aluminum chloride, cyanide

ABSTRACT: The reactions of complex compounds alkyltetrachlorophosphines (I) and dialkylchlorophosphanes (II) with ethylmercaptan and potassium thiocyanide were studied. In the reaction of the complex of (I) and (II) with ethyl mercaptan in the presence of calcined potassium chloride, alkylchlorophosphine sulfides (III) are formed with yields up to 75% and dialkylchlorophosphane sulfides (IV) with a yield up to 50%. The reactions evidently occur in two stages. Initially, addition products of ethylmercaptan to the complexes of (I) and (II) are formed with the liberation of hydrogen chloride. Further heating leads to separation of ethylchloride and the products (III) and (IV). Upon heating of the complex compounds

Card 1/2

UDC: 547.661.718.1

L 21799-66

ACC NR: AP6012644

of (I) and (II) with potassium chloride, the compounds (III) and (IV) are formed at yields up to 70-80%. [JPRS]

SUB CODE: 07 / SUBM DATE: 28Oct63 / ORIG REF: 004 / OTH REF: 001

Card 2/2

RB

L 36494-66 EWT(m)/EWP(j) RM

ACC NR: AP6027087

SOURCE CODE: UR/0079/65/035/010/1879/1879

AUTHOR: Ivin, S. Z.; Karavanov, K. V.; Lysenko, V. V.; Levin, V. M.

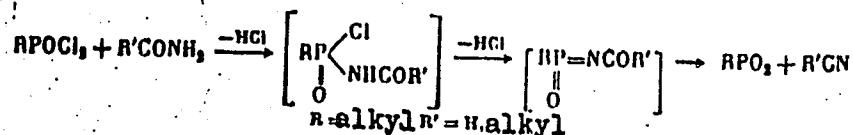
ORG: none

TITLE: Reaction of alkylidichlorophosphine oxides with carboxylic acid amides

SOURCE: Zhurnal obshchey khimii, v. 35, no. 10, 1965, 1879

TOPIC TAGS: phosphorus compound, carboxylic acid, organic amide, acetic anhydride, phosphinic acid, chemical identification, distillation

ABSTRACT: It has been established for the first time that the reaction of alkylidichlorophosphine oxides with carboxylic acid amides forms anhydrides of alkylphosphinic acids and compounds containing a cyano group. The reaction can be carried out in a solvent (boiling carbon tetrachloride) or without it at 100-130°C. In the latter case the reaction is much faster. The end products are apparently formed in three states:



Reactions of methyl- and ethyldichlorophosphine oxides with amides of formic, acetic, and trifluoroacetic acids were carried out.

Anhydrides of alkylphosphinic acids (CH_3PO_2 , $\text{C}_2\text{H}_5\text{PO}_2$) are formed

in 96% yield. They were identified by elementary analysis and by determining the acidity. Compounds containing a cyano group (HCN , CH_3CN , CF_3CN) were separated by fractional distillation and analyzed. Their content was 93-96%. [JPRS: 36,328]

SUB CODE: 07 / SUBM DATE: 30Apr65

UDC: 543.257.1+547.241+547.558.1

Card 1/1

11b

UDC: 547.419.1.07

ACC NR: AP6030556

SOURCE CODE: UR/0413/66/000/016/0032/0032

INVENTOR: Karavanov, K. V.; Ivin, S. Z.; Gruzdev, V. G.

ORG: none

TITLE: Preparation of alkyl(aryl)tetrafluorophosphines or dialkyl trifluorophosphines
Class 12, No. 184851

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 32

TOPIC TAGS: alkyl tetrafluoro phosphine, dialkyl trifluorophosphine, aryl tetrafluoro-
phosphine, diaryl trifluorophosphine, *ORGANIC PHOSPHORUS COMPOUND*,
FLUORINE COMPOUND

ABSTRACT: To simplify the technology of the preparation of alkyl(aryl)tetrafluoro-
phosphines or dialkyltrifluorophosphines by the reaction of organophos-
phorus compounds with SbF_3 , alkyl(aryl)dichloro(fluoro)phosphine sul-
fides or dialkylchloro(fluoro)phosphine sulfides are used as the organo-
phosphorus compounds and the process is carried out with heating to
50—120°C. [WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 25May65/

Card 1/1

UDC: 547.412.13'241.07

11413-07 EWT(m)/EWP(j) RM
ACC NR: AP7003671

SOURCE CODE: UR/0079/66/036/008/1507/1507

AUTHOR: Lysenko, V. V.; Shelakova, I. D.; Karavanov, K. V.; Ivin, S. Z.

ORG: none

TITLE: Pentacovalent phosphorus compounds. Interaction of methyltetrafluorophosphine with carboxylic acid anhydrides

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1507

TOPIC TAGS: alkylphosphine, carboxylic acid anhydride, fluorinated organic compound

ABSTRACT: Methyltetrafluorophosphine was found to react with acetic, propionic, and butyric anhydrides, forming methyldifluorophosphine oxide and fluorides of the corresponding acids. The reaction rate drops with increasing molecular weight of the carboxylic acid anhydride, and the yield of the substances formed decreases. The authors intend to publish a further series of reports on the chemistry of pentacovalent phosphorus compounds under the title, "Derivatives of Phosphorus Acids Containing the P-F Bond." [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 04Mar66 / OTH REF: 002

Card 1/1 jb

0926 0296

5.3200
5.3700

S/079/60/030/05/50/074
B005/B125

AUTHORS:

Lapkin, I. I., Karavanov, N. A.

TITLE:

Steric Hindrances in Organomagnesium Reactions. XX. The
Synthesis of Esters of Secondary α -Hydroxy Acids of the
Aliphatic and Alicyclic Series

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1638-1643

TEXT: It had been determined in earlier papers by the first-named author (Refs. 1-6) that the reaction of oxalic acid diesters with aromatic organomagnesium compounds can be checked in the first stage of the reaction under relatively simple conditions. The complex compound which forms in this first stage of the reaction is unstable and decomposes at the boiling point of the ethereal solution (40-42°) according to a given pattern (Ref. 3). Esters of α -hydroxy acid, which contain the hydroxyl group secondarily bound, form by hydrolysis from the decomposition products. In the present report this process is used for the synthesis of aliphatic and alicyclic α -hydroxy carboxyl acid esters. When the organomagnesium compound contains an alkyl radical in the place of an aryl

Card 1/2

Steric Hindrances in Organomagnesium Reactions. S/079/60/030/05/50/074
XX. The Synthesis of Esters of Secondary B005/B125
 α -Hydroxy Acids of the Aliphatic and Alicyclic Series

radical, the complex compound forming in the first stage of the reaction is more stable and decomposes at temperatures of 110-120°. The complete decomposition of the complex can be attained by the addition of toluene, the distilling of the ether and the subsequent boiling of the toluene solution for two hours. When the complex compound contains an alicyclic radical, it decomposes just as in the case of an aryl radical at the boiling of the ethereal solution. The carrying out of all the named organo-magnesium syntheses is thoroughly described in an experimental section. X
The authors synthesized in this way 19 α -hydroxy acid esters, which had not yet been described in publications. The yield, boiling point (or melting point), gross formula, and percentage composition of the elements are given in a Table for each of these new esters; the refractive index, the density, and molar refraction are given additionally for the liquid esters. There are 1 table and 8 references, 6 of which are Soviet.

ASSOCIATION: Permskiy gosudarstvennyy universitet (Perm' State University)

SUBMITTED: May 28, 1959

Card 2/2

LIPKIN, I.I.; KARAVANOV, N.A.

Reactions of metal halide alcoholates. Part 9: Interaction between
esters of keto acids and magnesium halide alcoholates. Zhur.
ob.khim. 30 no.8:2677-2680 Ag '60. (MIRA 13:8)

1. Permskiy gosudarstvennyy universitet.
(Esters) (Alcoholates) (Magnesium organic compounds)

KRATOV, F.; KARAVANOV, V.

For a higher level of production mechanization. Muk.-elev.
prom. 28 no.1:28 Ja '62. (MIRA 16:7)

1. Direktor Belgorod-Dnestrovskoy realizatsionnoy bazy (for
Kratov). 2. Direktor Kanayevskogo khlebopriyemnogo punkta
Penzenskoy obl. (for Karavanov).
(Grain)

AUTHOR: Karavanov, V.F.

SOV/147-58-1-9/22

TITLE: The Equations of Curved Sandwich Shells with Light Filling for Finite Displacements (Uravneniya plogikh trekhsloynnykh obolochek s legkim zapolnitelem pri konechnykh smesheni-
yakh)

PERIODICAL: Izvestiya vysshikh Uchebnykh Zavedeniy.
Aviatsionnaya Tekhnika, 1958, Nr 1, pp 69 - 77 (USSR).

ABSTRACT: This paper gives a generalisation of Reissner's solution (Ref 1) for finite deformations of rectangular sandwich plates on curved sandwich shells. The equations are deduced for curved sandwich shells with a light filling for finite displacements inside the surface of the load bearing layers, in which the filling undergoes small deformations. It is assumed that the thin isotropic load bearing layers are subject to the Kirchhoff-Love hypothesis. The filling is assumed light, isotropic and elastic. The thickness of the load bearing layers is assumed small in comparison with the general thickness of the sandwich shell. In deriving the equations, the intrinsic bending strength of the load bearing layers is ignored and in the filling only the transverse displacement and the transverse compressive deformation are taken into

Card 1/2

The Equations of Curved Sandwich Shells with Light Fillings for
Finite Displacements

SOV/147-58-1-9/22

account. Three special cases are quoted. They are: 1) cylindrical curved sandwich shells; 2) spherical curved sandwich shells and 3) rectangular curved sandwich shells. The equations for curved axially symmetrical sandwich shells are written in polar co-ordinates. There are 1 figure and 8 references, 4 of which are Soviet and 4 English.

ASSOCIATION: Moskovskiy aviatsionnyy institut (Moscow Aviation Institute)

SUBMITTED: November 5, 1957

Card 2/2

1. Sandwich panels--Deformation 2. Mathematics--Applications

KARAVANOV, V.F., starshiy prepodavatel'

Axisymmetric sandwich shells with light-weight filler. Izv.
vys.ucheb.zav.; mashinostr. no.6:34-45 '58. (MIRA 12:8)

1. Moskovskiy aviatsionnyy institut.
(Elastic plates and shells)

1.3000

24.4200

25830

S/535/60/000/130/005/007
E081/E335

AUTHOR: Karavanov, V.F., Engineer

TITLE: The Equations of Axially Symmetric Three-ply Shells
with a Light Filling

PERIODICAL: Moscow. Aviatsionnyy institut. Trudy. No. 130,
1960, Prochnost' aviatsionnykh konstruktsiy.
pp. 110 - 132

TEXT: The paper is a continuation of previous work by the
same author (Ref. 1 - Izvestiya vysshikh uchebnykh zavedeniy,
Mashinostroyeniye, 1958, No. 6) where the basic formulae are
quoted but not derived. In this paper the formulae are derived.
The obtained formulae are similar to the equations of the theory
of thin uniform axis-symmetric shells of E. Meissner (Ref. 3 -
Physikalische Zeitschrift, Vol. 14, No. 8, 1913). The material
of the shell is of sandwich construction, consisting of outer
bearing layers of metal, plastic, plywood, etc. and a light
filling layer of honeycomb construction, corrugated material or
foam plastic. The analysis is based on concepts proposed by
Card 1/3

The Equations of

25830

S/535/60/000/130/005/007
E081/E335

Ref.2

E. Reissner (NACA Rep. 957, 1950) using the same notations. The following assumptions are made: 1) the bending rigidity of the bearing layers can be neglected; 2) the modulus of normal elasticity and shear of the filler are zero in the longitudinal direction and differ from zero in the transverse direction; 3) the filler is regarded as comparatively thick, light, elastic and isotropic, with a relatively low modulus of elasticity; 4) the difference in the lengths of the middle surfaces of the inner and outer layers is to be taken into account. On the basis of these assumptions, the geometry of the shell, the equilibrium of the bearing layers, stress distribution in the filler, and the potential energy of deformation of the shell are considered. The relations between stresses, moments and displacements in the shell are expressed as three equilibrium equations and five relations between stresses and displacements. From these eight equations the eight unknowns can be determined, i.e. the two normal stresses, the shearing stress, two bending moments and three displacements. The eight equations are reduced to two simultaneous second-

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KARAVANOV, V.F.

Strength of shallow cylindrical sandwich panels with a light filler and fastened longitudinal edges and subjected to axial compression. Izv. vys. ucheb. zav.; av. tekhn. 3 no. 2:50-60 '60. (MIRA 14:5)

1. Moskovskiy aviatsionnyy institut, kafedra soprotivleniya materialov.

(Elastic plates and shells)

KARAVANOV, V. F., CAND TECH SCI, "BEND AND STABILITY OF
THREE-PLY SHELLS WITH LIGHT FILLER." MOSCOW, 1961. (MIN OF
HIGHER AND SEC SPEC ED RSFSR. MOSCOW ORDER OF LABOR RED
BANNER ENGINEERING ~~AND~~ CONSTRUCTION INST IMENI V. V. KUY-
BYSHEV). (KL-DV, 11-61, 220).

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ACCESSION NO: AT3003029

S/2942/63/000/001/0087/0096

AUTHOR: Karavanov, V. F. (Candidate of technical sciences)

TITLE: Stability and above-critical behavior under compression of triple-layered tapered cylindrical shells with a light filler

SOURCE: Moscow. Aviatsionnyy institut. Voprosy prochnosti i ustoychivosti elementov tonkostennykh konstruktsiy, no. 1, 1963, 87-96

TOPIC TAGS: buckling, cylindrical shell, tapered shell, sandwich panel, sandwich panel buckling, buckling load

ABSTRACT: The above-critical behavior of a compressed triple-layered cylindrical panel is investigated, and qualitative and quantitative load loss results are presented after instability occurs. The equilibrium equations for this case were derived by L. M. Kurshin (Uraveniya trekhsloynnykh tsilindricheskikh obolochek s legkim zapornitelem, Izv. otd. tekhnich. nauk. AN SSSR, No. 3, 1958, stp. 142-144). After providing suitable boundary conditions (loose ends, clamped edge along the axial direction) and integrating, the equation relating the critical load m_t and the bending parameter \mathcal{L} is expressed as follows: $m_t = m_t + A\mathcal{L}^2 - Bk\mathcal{L}$ (where

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w_0 = bending at $x = \frac{a}{2}$, $y = \frac{b}{2}$, a = length, b = circumference, m_t^+ = upper critical load, γ = bending stiffness parameter, Ω = shear strength parameter of filler, and

$$m_t^+ = \frac{1}{\psi^2 \left[0.75 + \Omega \left(1 + \frac{3}{\psi^2} \right) \right]} \left\{ (1 + \gamma) [2 + (1 + \psi^2)^2] + \right. \\ \left. + \gamma \frac{4\Omega}{\psi^2} [2 + (1 + \psi^2)^2] + \right. \\ \left. + \frac{\psi^4}{16} \left[\left(2 + \frac{1}{(1 + \psi^2)^2} \right) + \frac{4\Omega}{\psi^2} \left(2 + \frac{1}{1 + \psi^2} \right) \right] \right\};$$

$$A = \frac{1}{\psi^2 \left[0.75 + \Omega \left(1 + \frac{3}{\psi^2} \right) \right]} \left\{ (\psi^2 + 4\Omega) \left[\frac{17}{16\psi^2} + \frac{\psi^2}{2(4 + \psi^2)^2} + \frac{\psi^2}{16} \right] + \right. \\ \left. + \Omega \left[\frac{9}{4} + \frac{\psi^4}{(4 + \psi^2)^2} + \frac{\psi^4}{4} \right] \right\};$$

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$$B = \frac{\psi^2}{4m\pi \left[0.75 + \Omega \left(1 + \frac{3}{\psi^2} \right) \right]} \left\{ \frac{16}{3} \frac{1}{(1+\psi^2)^2} \left[1 + 2\Omega \left(1 + \frac{5}{\psi^2} \right) \right] + \right. \\ \left. + \frac{8}{3} \frac{1}{(4+\psi^2)^2} \left[1 + 4\Omega \left(1 + \frac{4}{\psi^2} \right) \right] + \left(3 + \frac{80\Omega}{3\psi^2} \right) \right\};$$

$$m_t = \frac{4P_1 b^2 (1-\mu^2)}{\pi^2 C^* (h+t)^2}; \quad k^2 = \frac{4(1-\mu^2) b^4}{\pi^4 R^2 (h+t)^2};$$

$$\eta = \frac{2D_n}{D} = \frac{1}{3} \left(\frac{t}{h+t} \right)^2; \quad \psi = \frac{2\lambda}{m};$$

$$\Omega = \frac{\pi^2 C h}{4 b^2 G_c}; \quad \xi = \frac{2 \sqrt{1-\mu^2}}{h+t} f;$$

$$f = \frac{w_0}{2}; \quad \lambda = \frac{a}{b}; \quad C = \frac{C^*}{1-\mu^2};$$

A table of values of ψ , m_t , A , Bk and \mathcal{L}_0 is given as a function of m for the special case $\lambda = 1$, $k^2 = 10$, $\Omega = 2$, $\frac{t}{h+t} = 0.01$ and also the function $m_t = f(\mathcal{L})$

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for this case is tabulated as a function of Ω . Analysis of this and other cases shows that for the normal range of Ω for light filler the ratio $\gamma = \frac{m_t^+}{m_t^-}$ (decrease of load after instability occurs, m_t^- = lower critical load parameter) is not effected by Ω . γ decreases with increasing m and becomes 1 when $m = 5$. The results of the investigation show that for the case of a light filler the linear theory sufficiently describes the behavior and does not require the exact solution, while for stiff fillers the linear theory is insufficient. Orig. art. has: 21 formulas, 1 figure, and 2 tables.

ASSOCIATION: Moscow. Aviatsionnyy institut (Moscow Aviation Institute)

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L 11262-63 EWP(r)/EWT(m)/BDS--AFFTC--EM

ACCESSION NR: AT3003030

S/2912/63/000/001/0097/0109

AUTHOR: Karavanov, V. F. (Candidate of technical sciences)

TITLE: On large deflections of a clamped cylindrical light-core sandwich panel
under uniform normal pressure

SOURCE: Moscow. Aviatsionnyy institut. Voprosy prochnosti i ustoychivosti
elementov tonkostennykh konstruktov, no. 1, 1963, 97-109

TOPIC TAGS: sandwich-panel buckling, sandwich-panel snapping, upper critical
pressure, lower critical pressure, buckling, snapping, sandwich panel, critical
pressure

ABSTRACT: Large deflections of a rectangular cylindrical shallow symmetrical
light-core sandwich panel, clamped on all edges, are determined in the first
approximation. The panel is under uniform normal pressure acting on its convex
side; the material of its faces and core is isotropic, homogeneous, and elastic.
It is assumed that the core resists only transverse shear and is rigid in this
direction; the displacements in the face layers are finite, and the flexural
rigidity of the latter is negligible. The nonlinear equations of equilibrium and
of compatibility of strains are used as initial ones. Two alternatives in

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arrangement of the panel edges are considered: 1) the clamped edges are fixed and 2) the clamped edges are movable in their plane. In each case the conditions for the occurrence of the "oil-can" effect are analyzed, and expressions for the upper and lower critical (buckling) pressures and for the associated deflections are derived. The values of the pressures and deflection for panels of certain length-to-width ratios and curvature parameters are given in tables and diagrams. The minimum values of the curvature parameter at which the "oil-can" effect takes place are also given. The need for checking the strength both of the core as related to transverse shear and of its joint with faces is mentioned. Orig. art. has: 2 figures, 5 tables, and 33 formulas.

ASSOCIATION: none

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Card 2/2

KARAVANOV, V.F., kand. tekhn. nauk

Stability and large flexures of elongated shallow cylindrical sandwich panels with a light filler in case of a uniformly distributed lateral load. Rasch. na prochn. no. 9:280-301 '63
(MIRA 16:12)

KARAVANOV, V.G.: GUK, N.P.

Change of some hemodynamic indexes in brain tumors of varying
histostructure. Probl.neirokhir. 4:179-184 '59. (MIRA 13:11)
(BLOOD)
(BRAIN--TUMORS)